REMARKS

Status of the Claims

No claims are amended with this paper.

Now pending are claims 16-21, 24, 29-32, 36, 40-43, 46-48, 54, 63-65 and 69; claims 16-21, 24, and 29-32 are under examination, and claims 36, 40-43, 46-48, 54, 63-65 and 69 stand withdrawn from consideration.

Rejection under 35 U.S.C. §103(a)

In the Office Action, claims 16-21, 24, and 29-32 were rejected as allegedly unpatentable over Meltzer et al., U.S. Patent No. 6,171,576 ("Meltzer"), in view of Largent, Mol. Pharmacol. 32:772-784 (1987) ("Largent"). This rejection is traversed.

According to the Office Action, "Meltzer teaches dopamine transporter imaging agents with a metal chelating group linked to a dopamine receptor ligand." The Office Action further states that "Largent discloses that the affinity of dopamine receptors for ligands is primarily associated with the 4-phenylpiperdine [sic] moiety." The Office Action then concludes that "replacement of one art recognized dopamine ligand (such as the Nortropane disclosed by Meltzer) with another art recognized dopamine ligand (such as the 4-phenylpiperidine of Largent) is merely a substitution of one art known element for another known in the field." Applicants cannot agree.

First, as Applicants understand the Largent reference, the cited portions of Largent do not teach that "the affinity of dopamine receptors for ligands is primarily associated with the 4-phenylpiperdine [sic] moiety." The Abstract of Largent refers to dopamine only once: to state that the authors examined "a wide range of compounds related to opioids, neuroleptics, and phenylpiperidine dopaminergic structures for affinity at σ receptor-binding sites." This statement falls far short of teaching that the affinity of dopamine receptors for ligands is primarily associated with the 4-phenylpiperidine moiety. The further statement in

the Abstract of Largent that "[a]mong the series of butyrophenones, receptor affinity is primarily associated with the 4-phenylpiperidine moiety" appears to be a reference to σ receptor affinity (the previous sentence, and the data shown in the Table beginning at page 775, refer to σ receptor affinity), not dopamine receptor affinity.

In addition, to the extent Largent refers to dopamine receptor affinity, Applicants submit that there is no clear teaching that a 4-phenylpiperidine moiety is associated with dopamine receptor affinity, or that σ receptor affinity is correlated with dopamine receptor affinity. For example, at page 783, left column, at the middle of the column, Largent states that "[i]n comparing the dopaminergic effects of these compounds to their affinities at σ-binding sites, both similarities and differences are apparent" (emphasis added). Applicants contend that Largent does not teach that the compounds of Largent have dopamine receptor affinity.

Second, one of ordinary skill in the art would not be motivated to make the combination suggested in the Office Action, and would not have a reasonable expectation of success in making the suggested modification. As noted above, Largent refers to dopamine receptor affinity. However, the Meltzer patent is directed to compounds having dopamine transporter binding affinity (see, e.g., the Abstract of Meltzer: "A tropane compound is linked through the N atom at the 8-position to a chelating ligand capable of complexing technetium or rhenium to produce a neutral labeled complex that selectively binds to the dopamine transporter"). As the Examiner will appreciate, dopamine transporter is not the same as dopamine receptor, and one of skill in the art would not consider that a compound having affinity for dopamine transporter would necessarily have affinity for dopamine receptor. Thus, there would be neither motivation, nor a reasonable expectation of success, in making the combination suggested in the Office Action.

Applicants respectfully contend that it would not have been obvious to combine the teachings of the references as suggested by the Office Action, and that the present claims are not rendered unpatentable by either of the cited references, whether taken alone or in combination. Withdrawal of the rejection is proper and such action is requested.

CONCLUSION

Early and favorable consideration of the application is earnestly solicited.

If any extension of time is required, Applicants conditionally petition for any necessary extension. The Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 04-1105, under Order No. 58345(70207), Customer No. 21874.

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Respectfully submitted,

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